

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A system for detecting position or dimensions of an object [[piece (3), including]] comprising:

[[•]] at least one checking probe [[(1)]] with detection devices [[(2)]],

[[•]] a remote transmission unit [[(4)], electrically connected to the detection devices [[(2)]] of said at least one probe [[(1)]], and adapted for wirelessly transmitting pulse signals [[(5)]] indicative of [[the]] a state of said at least one probe [[(1)]], and

[[•]] a receiver unit [[(7)]], adapted for wirelessly receiving signals, [[(5,NS) and including]] the receiver unit comprising:

[[•]] an input section, with at least one receiver device [[(13)]], adapted for providing input signals [[(VA)]],

[[•]] a generation and control section [[(16,16')] adapted for generating and for defining reference signals [[(VTH)]], and

[[•]] a comparison section, [[(20)] electrically connected to the input section and the generation and control section [[(16,16')], adapted for providing output signals [[(VO)]] responsive to [[the]] results of comparison[[s]] between the input signals [[(VA)]] and the reference signals [[(VTH)]],

[[•]] the generation and control section [[(16,16') including]] comprising threshold generation circuits [[(30)]] and automatic checking circuits [[(40,50)]] for checking [[the]] difference in amplitude between the input signals [[(VA)]] and the reference signals, [[(VTH), characterized in that]] wherein said automatic checking circuits [[include]] comprise discriminating circuits [[(50)]] adapted for detecting at least one attribute of the input signals [[(VA)]] and for varying said difference in amplitude if said at least one detected attribute corresponds to the wirelessly received signals that differ from said pulse signals [[(5)]] transmitted by the remote transmission unit [[(4)]].

2. (Currently Amended) The system according to claim1, wherein said input section includes amplification circuits [[(15) of]] for the received signals [[(5,NS)]], said input signals [[(VA)]] being amplified signals.

3. (Currently Amended) The system according to claim 1 [[or claim 2]], wherein said at least one attribute is [[the]] a distribution in amplitude of the input signals [[(VA)]].

4. (Currently Amended) The system according to claim 3, wherein the discriminating circuits [(50)] include components [(51,53,55,57)] adapted for evaluating [the] duty-cycle of the input signals [(VA)].

5. (Currently Amended) The system according to claim 4, wherein the discriminating circuits [(50)] include components [(51,53,55,57)] adapted for detecting the input signals [(VA)] with the duty-cycle exceeding a predetermined value, and for consequently varying said difference in amplitude.

6. (Currently Amended) The system according to [one of the preceding claims] claim 1, wherein the automatic checking circuits also include detecting circuits [(40)] adapted for [revealing] detecting peak values of the amplitude of the input signals [(VA)], the detecting circuits [(40)] being electrically connected to the threshold generator circuits [(30)] for dynamically and temporarily varying said reference signals [(VTH)].

7. (Currently Amended) The system according to [one of the preceding claims] claim 1, wherein said discriminating circuits [(50)] are electrically connected to the threshold generating circuits [(30)] for varying in amplitude said reference signals [(VTH)].

8. (Currently Amended) The system according to claim 2, wherein said discriminating circuits [(50)] are electrically connected [(60)] to the amplification circuits [(15)] for varying in amplitude said amplified signals.

9. (Currently Amended) A method for checking the dimensions or the position of an object [piece (3)], by means of at least one checking probe [(1)] including detection devices [(2)], at least one remote transmission unit [(4)] electrically connected to said at least one checking probe [(1)] and adapted for wirelessly transmitting signals in the form of pulses [(5)], and a receiver unit [(7)], adapted for receiving said signals in the form of pulses [(5)], [whereby] the method comprising:

[(•)] comparing amplitude of input signals [(VA)] in the receiver unit [(7) are compared in amplitude] with reference signals [(VTH)] for providing output signals, (VO), ~~and the difference in amplitude between the reference signals (VTH) and the input signals (VA) is varied in a dynamic way, characterized by the steps of:~~

[[•]] identifying [[the]] noise signals [[(NS)]] on the basis of attributes differing from those of the signals [[(5)]] transmitted by the remote transmission unit [[(4)], and
[[• consequently]] varying in a dynamic way [[said]] difference in amplitude between the reference signals and the input signals.

10. (Currently Amended) The method according to claim 9, wherein said step of identifying the noise signals [[(NS)]] is carried out based on a distribution in amplitude of the input signals [[(VA)]] that differs from that of the signals [[(5)]] transmitted by the remote transmission unit [[(4)].

11. (Currently Amended) The method according to claim 10, wherein said step of identifying the noise signals [[(NS)]] is carried out based on a verification of [[the]] a duty-cycle value of the input signals [[(VA)]].

12. (Currently Amended) The method according to claim 11, wherein said step of identifying the noise signals [[(NS)]] is carried out by [[means of]] a comparison of the duty-cycle of the input signals [[(VA)]] with a [[minimum]] predetermined minimum value.

13. (Currently Amended) The method according to [[one of]] claim[[s from]] 9 [[to 12]], wherein said step of varying the difference in amplitude [[includes]] comprises making the reference signals [[(VTH)]] greater than, in terms of absolute value, [[the]] a peak amplitude of [[the]] a component of the input signals [[(VA)]] corresponding to the noise signals [[(NS)].

14. (Currently Amended) The method according to [[one of]] claim[[s from]] 9 [[to 13]], wherein in the receiver unit [[17]], said signals in the form of pulses [[5]] are received and amplified in order to obtain said input signals [[VA]].

15. (Currently Amended) The method according to [[one of]] claim [[s from]] 9 [[to 14]], wherein said step of varying the difference in amplitude includes an automatic check of the amplitude of the reference signals [[(VTH)]].

16. (Currently Amended) The method according to claim 14, wherein said step of varying the difference in amplitude includes an automatic control $[(60)]$ of the amplitude of the input signal $[(VA)]$.